

SDGs (*Sustainable Development Goals*) DAN 1000 HARI PERTAMA KEHIDUPAN



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Pendahuluan

Pembangunan bidang kesehatan di Indonesia tidak hanya dilakukan dengan misi nasional tetapi juga misi global yang dituangkan dalam *Millenium Development Goals* (MDGs). MDGs yang memiliki target untuk mencapai kesejahteraan rakyat berakhir tahun 2015. Penghujung tahun 2015, sebagai titik tolak momen peralihan dari Millenium Development Goals (MDGs) menuju *Sustainable Development Goals* (SDGs) sampai tahun 2030 yang merupakan kebijakan global yang berkesinambungan. Terlepas dari telah tercapai atau belum tercapainya target pembangunan MDGs, MDGs telah memberi banyak pencerahan bagi sistem pembangunan di Indonesia. Selanjutnya, agenda pembangunan global SDGs merupakan peluang besar untuk melanjutkan pembangunan.

Perserikatan Bangsa-Bangsa (PBB) baru saja meluncurkan program pembangunan berkelanjutan yang diberi nama *Sustainable Development Goals (SDGs)*, menggantikan program sebelumnya *Millennium Development Goals (MDGs)* yang selesai pada akhir tahun 2015. SDGs tersebut akan otomatis berlaku bagi negara-negara maju dan berkembang untuk 15 tahun ke depan. Tujuan dari agenda baru PBB tersebut tidak berbeda jauh dari program sebelumnya, yang di antaranya mengakhiri kemiskinan, menjamin kehidupan sehat, mempromosikan pendidikan dan memerangi perubahan iklim. Alasan mengapa SDGs akan jauh lebih baik dari MDGs, yakni:

1. SDGs lebih global dalam mengkolaborasikan program-programnya. MDGs sebelumnya dibuat oleh anggota negara OECD (Organisation for Economic Co-operation and Development) dan beberapa lembaga internasional. Sementara

SDGs dibuat secara detail dengan negosiasi internasional yang juga terdiri dari negara berpendapatan menengah dan rendah.

2. MDGs tidak memiliki standar dasar hak asasi manusia (HAM). MDGs dianggap gagal untuk memberikan prioritas keadilan yang merata dalam bentuk-bentuk diskriminasi dan pelanggaran HAM, yang akhirnya berujung kepada masih banyaknya orang yang terjebak dalam kemiskinan. Sementara SDGs dinilai sudah didukung dengan dasar-dasar dan prinsip-prinsip HAM yang lebih baik.
3. SDGs adalah program inklusif. Tujuh target SDG sangat eksplisit tertuju kepada orang dengan kecacatan, dan tambahan enam target untuk situasi darurat, ada juga tujuh target bersifat universal dan dua target ditujukan untuk antidiskriminasi.
4. Indikator-indikator yang digunakan memberikan kesempatan untuk keterlibatan masyarakat sipil.

Dalam Sustainable Development Goals (SDGs) terdapat :

1. Mengakhiri segala bentuknya kemiskinan di mana-mana
2. **Mengakhiri kelaparan , mencapai ketahanan pangan dan meningkatkan gizi , serta mempromosikan pertanian berkelanjutan**
3. **Menjamin kehidupan yang sehat serta mendorong kesejahteraan hidup untuk seluruh masyarakat di segala umur.**
4. Memastikan kualitas inklusif dan pendidikan yang adil serta mempromosikan kesempatan pembelajaran seumur hidup bagi semua
5. Mencapai kesetaraan gender dan memberdayakan kaum ibu dan perempuan.

6. Menjamin ketersediaan air bersih dan sanitasi yang berkelanjutan untuk semua orang.
7. Menjamin akses terhadap sumber energi yang terjangkau, terpercaya, berkelanjutan dan modern untuk semua orang
8. Mendukung perkembangan ekonomi yang berkelanjutan dan inklusif, lapangan kerja yang penuh dan produktif, serta pekerjaan yang layak untuk semua orang
9. Membangun infrastruktur yang berkualitas, mendorong peningkatan industri yang inklusif dan berkelanjutan serta mendorong inovasi
10. Mengurangi ketidaksetaraan baik di dalam sebuah negara maupun di antara negara-negara di dunia.
11. Membangun kota-kota serta pemukiman yang inklusif, berkualitas, aman, berketahanan dan berkelanjutan.
12. Menjamin keberlangsungan konsumsi dan pola produksi. Pastikan konsumsi dan pola produksi berkelanjutan
13. Bertindak cepat untuk memerangi perubahan iklim dan dampaknya.
14. Melestarikan dan menjaga keberlangsungan laut dan kehidupan sumber daya laut untuk perkembangan pembangunan yang berkelanjutan
15. Melindungi, mengembalikan, dan meningkatkan keberlangsungan pemakaian ekosistem darat, mengelola hutan secara berkelanjutan, mengurangi tanah tandus serta tukar guling tanah, memerangi penggurunan, menghentikan dan memulihkan degradasi tanah, serta menghentikan kerugian keanekaragaman hayati.
16. Meningkatkan perdamaian termasuk masyarakat untuk pembangunan berkelanjutan, menyediakan akses untuk keadilan bagi semua orang termasuk

lembaga dan bertanggung jawab untuk seluruh kalangan, serta membangun institusi yang efektif, akuntabel, dan inklusif di seluruh tingkatan.

17. Memperkuat implementasi dan menghidupkan kembali kemitraan global untuk pembangunan yang berkelanjutan.



Gambar : Goal SDGs

SUSTAINABLE DEVELOPMENT GOALS AND TARGETS

This table presents the official draft of the 17 Sustainable Development Goals (SDGs) and the 169 targets that are to operationalize them, as developed by the UN's Open Working Group on Sustainable Development Goals.

As part of the report "Review of Targets for the Sustainable Development Goals: The Science Perspective" scientific experts assessed the targets and assigned one of three 'traffic light' colours to each one. These indicate whether the target is well developed (green), could be strengthened by being more specific (amber), or requires significant work (red).

For details on the expert findings, please check the full report – ICSU, ISSC (2015): Review of the Sustainable Development Goals: The Science Perspective. Paris, International Council for Science (ICSU).

GOAL 1

END POVERTY IN ALL ITS FORMS EVERYWHERE

1.1 by 2030, eradicate extreme poverty for all people everywhere, currently measured as people living on less than \$1.25 a day

1.2 by 2030, reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions

1.3 implement nationally appropriate social protection systems and measures for all, including floors, and by 2030 achieve substantial coverage of the poor and the vulnerable

1.4 by 2030 ensure that all men and women, particularly the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership, and control over land and other forms of property, inheritance, natural resources, appropriate new technology, and financial services including microfinance

1.5 by 2030 build the resilience of the poor and those in vulnerable situations, and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters

1.a ensure significant mobilization of resources from a variety of sources, including through enhanced development cooperation to provide adequate and predictable means for developing countries, in particular LDCs, to implement programmes and policies to end poverty in all its dimensions

1.b create sound policy frameworks, at national, regional and international levels, based on pro-poor and gender-sensitive development strategies to support accelerated investments in poverty eradication actions

GOAL 2

END HUNGER, ACHIEVE FOOD SECURITY AND IMPROVED NUTRITION, AND PROMOTE SUSTAINABLE AGRICULTURE

2.1 by 2030 end hunger and ensure access by all people, in particular the poor and people in vulnerable situations including infants, to safe, nutritious and sufficient food all year round

2.2 by 2030 end all forms of malnutrition, including achieving by 2025 the internationally agreed targets on stunting and wasting in children under five years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women, and older persons

2.3 by 2030 double the agricultural productivity and the incomes of small-scale food producers, particularly women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets, and opportunities for value addition and non-farm employment

2.4 by 2030 ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters, and that progressively improve land and soil quality

2.5 by 2020 maintain genetic diversity of seeds, cultivated plants, farmed and domesticated animals and their related wild species, including through soundly managed and diversified seed and plant banks at national, regional and international levels, and ensure access to and fair and equitable sharing of benefits arising from the utilization of genetic resources and associated traditional knowledge as internationally agreed

2.a increase investment, including through enhanced international cooperation, in rural infrastructure, agricultural research and extension services, technology development, and plant and livestock gene banks to enhance agricultural productive capacity in developing countries, in particular in least developed countries

2.b correct and prevent trade restrictions and distortions in world agricultural markets including by the parallel elimination of all forms of agricultural export subsidies and all export measures with equivalent effect, in accordance with the mandate of the Doha Development Round

2.c adopt measures to ensure the proper functioning of food commodity markets and their derivatives, and facilitate timely access to market information, including on food reserves, in order to help limit extreme food price volatility

GOAL 3

ENSURE HEALTHY LIVES AND PROMOTE WELL-BEING FOR ALL AT ALL AGES

3.1 by 2030 reduce the global maternal mortality ratio to less than 70 per 100,000 live births

3.2 by 2030 end preventable deaths of newborns and under-five children

3.3 by 2030 end the epidemics of AIDS, tuberculosis, malaria, and neglected tropical diseases and combat hepatitis, water-borne diseases, and other communicable diseases

3.4 by 2030 reduce by one-third pre-mature mortality from non-communicable diseases (NCDs) through prevention and treatment, and promote mental health and wellbeing

3.5 strengthen prevention and treatment of substance abuse, including narcotic drug abuse and harmful use of alcohol

3.6 by 2030 halve global deaths and injuries from road traffic accidents

3.7 by 2030 ensure universal access to sexual and reproductive health care services, including for family planning, information and education, and the integration of reproductive health into national strategies and programmes

3.8 achieve universal health coverage (UHC), including financial risk protection, access to quality essential health care services, and access to safe, effective, quality, and affordable essential medicines and vaccines for all

3.9 by 2030 substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water, and soil pollution and contamination

3.a strengthen implementation of the Framework Convention on Tobacco Control in all countries as appropriate

3.b support research and development of vaccines and medicines for the communicable and non-communicable diseases that primarily affect developing countries, provide access to affordable essential medicines and vaccines, in accordance with the Doha Declaration which affirms the right of developing countries to use to the full the provisions in the TRIPS agreement regarding flexibilities to protect public health and, in particular, provide access to medicines for all

3.c increase substantially health financing and the recruitment, development and training and retention of the health workforce in developing countries, especially in LDCs and SIDS

3.d strengthen the capacity of all countries, particularly developing countries, for early warning, risk reduction, and management of national and global health risks

GOAL 4

ENSURE INCLUSIVE AND EQUITABLE QUALITY EDUCATION AND PROMOTE LIFE-LONG LEARNING OPPORTUNITIES FOR ALL

4.1 by 2030, ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes

4.2 by 2030 ensure that all girls and boys have access to quality early childhood development, care and pre-primary education so that they are ready for primary education

4.3 by 2030 ensure equal access for all women and men to affordable quality technical, vocational and tertiary education, including university

4.4 by 2030, increase by x% the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship

4.5 by 2030, eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, indigenous peoples, and children in vulnerable situations

4.6 by 2030 ensure that all youth and at least x% of adults, both men and women, achieve literacy and numeracy

4.7 by 2030 ensure all learners acquire knowledge and skills needed to promote sustainable development, including among others through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship, and appreciation of cultural diversity and of culture's contribution to sustainable development

4.a build and upgrade education facilities that are child, disability and gender sensitive and provide safe, non-violent, inclusive and effective learning environments for all

4.b by 2020 expand by x% globally the number of scholarships for developing countries in particular LDCs, SIDS and African countries to enrol in higher education, including vocational training, ICT, technical, engineering and scientific programmes in developed countries and other developing countries

4.c by 2030 increase by x% the supply of qualified teachers, including through international cooperation for teacher training in developing countries, especially LDCs and SIDS

GOAL 5

ACHIEVE GENDER EQUALITY AND EMPOWER ALL WOMEN AND GIRLS

- 5.1 end all forms of discrimination against all women and girls everywhere
- 5.2 eliminate all forms of violence against all women and girls in public and private spheres, including trafficking and sexual and other types of exploitation
- 5.3 eliminate all harmful practices, such as child, early and forced marriage and female genital mutilations
- 5.4 recognize and value unpaid care and domestic work through the provision of public services, infrastructure and social protection policies, and the promotion of shared responsibility within the household and the family as nationally appropriate
- 5.5 ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic, and public life
- 5.6 ensure universal access to sexual and reproductive health and reproductive rights as agreed in accordance with the Programme of Action of the ICPD and the Beijing Platform for Action and the outcome documents of their review conferences
- 5.a undertake reforms to give women equal rights to economic resources, as well as access to ownership and control over land and other forms of property, financial services, inheritance, and natural resources in accordance with national laws
- 5.b enhance the use of enabling technologies, in particular ICT, to promote women's empowerment
- 5.c adopt and strengthen sound policies and enforceable legislation for the promotion of gender equality and the empowerment of all women and girls at all levels

GOAL 6

ENSURE AVAILABILITY AND SUSTAINABLE MANAGEMENT OF WATER AND SANITATION FOR ALL

- 6.1 by 2030, achieve universal and equitable access to safe and affordable drinking water for all
- 6.2 by 2030, achieve access to adequate and equitable sanitation and hygiene for all, and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations
- 6.3 by 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater, and increasing recycling and safe reuse byx% globally
- 6.4 by 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity
- 6.5 by 2030 implement integrated water resources management at all levels, including through transboundary cooperation as appropriate
- 6.6 by 2030 protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes
- 6.a by 2030, expand international cooperation and capacity-building support to developing countries in water and sanitation related activities and programmes, including water harvesting, desalination, water efficiency, wastewater treatment, recycling and reuse technologies
- 6.b support and strengthen the participation of local communities for improving water and sanitation management

GOAL 7

ENSURE ACCESS TO AFFORDABLE, RELIABLE, SUSTAINABLE, AND MODERN ENERGY FOR ALL

- 7.1 by 2030 ensure universal access to affordable, reliable, and modern energy services
- 7.2 increase substantially the share of renewable energy in the global energy mix by 2030
- 7.3 double the global rate of improvement in energy efficiency by 2030
- 7.a by 2030 enhance international cooperation to facilitate access to clean energy research and technologies, including renewable energy, energy efficiency, and advanced and cleaner fossil fuel technologies, and promote investment in energy infrastructure and clean energy technologies
- 7.b by 2030 expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all in developing countries, particularly LDCs and SIDS

GOAL 8

PROMOTE SUSTAINED, INCLUSIVE AND SUSTAINABLE ECONOMIC GROWTH, FULL AND PRODUCTIVE EMPLOYMENT AND DECENT WORK FOR ALL

- 8.1 sustain per capita economic growth in accordance with national circumstances, and in particular at least 7% per annum GDP growth in the least-developed countries
- 8.2 achieve higher levels of productivity of economies through diversification, technological upgrading and innovation, including through a focus on high value added and labour-intensive sectors
- 8.3 promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage formalization and growth of micro-, small- and medium-sized enterprises including through access to financial services
- 8.4 improve progressively through 2030 global resource efficiency in consumption and production, and endeavour to decouple economic growth from environmental degradation in accordance with the 10-year framework of programmes on sustainable consumption and production with developed countries taking the lead
- 8.5 by 2030 achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value
- 8.6 by 2020 substantially reduce the proportion of youth not in employment, education or training
- 8.7 take immediate and effective measures to secure the prohibition and elimination of the worst forms of child labour, eradicate forced labour, and by 2025 end child labour in all its forms including recruitment and use of child soldiers
- 8.8 protect labour rights and promote safe and secure working environments of all workers, including migrant workers, particularly women migrants, and those in precarious employment
- 8.9 by 2030 devise and implement policies to promote sustainable tourism which creates jobs, promotes local culture and products
- 8.10 strengthen the capacity of domestic financial institutions to encourage and to expand access to banking, insurance and financial services for all
- 8.a increase Aid for Trade support for developing countries, particularly LDCs, including through the Enhanced Integrated Framework for LDCs
- 8.b by 2020 develop and operationalize a global strategy for youth employment and implement the ILO Global Jobs Pact

GOAL 9

BUILD RESILIENT INFRASTRUCTURE, PROMOTE INCLUSIVE AND SUSTAINABLE INDUSTRIALIZATION AND FOSTER INNOVATION

- 9.1 develop quality reliable, sustainable and resilient infrastructure, including regional and trans-border infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all
- 9.2 promote inclusive and sustainable industrialization, and by 2030 raise significantly industry's share of employment and GDP in line with national circumstances, and double its share in LDCs
- 9.3 increase the access of small-scale industrial and other enterprises, particularly in developing countries, to financial services including affordable credit and their integration into value chains and markets
- 9.4 by 2030 upgrade infrastructure and retrofit industries to make them sustainable, with increased resource use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, all countries taking action in accordance with their respective capabilities
- 9.5 enhance scientific research, upgrade the technological capabilities of industrial sectors in all countries, particularly developing countries, including by 2030 encouraging innovation and increasing the number of R&D workers per one million people by x% and public and private R&D spending
- 9.a facilitate sustainable and resilient infrastructure development in developing countries through enhanced financial, technological and technical support to African countries, LDCs, LDCs and SIDS
- 9.b support domestic technology development, research and innovation in developing countries including by ensuring a conducive policy environment for inter alia industrial diversification and value addition to commodities
- 9.c significantly increase access to ICT and strive to provide universal and affordable access to internet in LDCs by 2020

GOAL 10

REDUCE INEQUALITY WITHIN AND AMONG COUNTRIES

10.1 by 2030 progressively achieve and sustain income growth of the bottom 40% of the population at a rate higher than the national average

10.2 by 2030 empower and promote the social, economic and political inclusion of all irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status

10.3 ensure equal opportunity and reduce inequalities of outcome, including through eliminating discriminatory laws, policies and practices and promoting appropriate legislation, policies and actions in this regard

10.4 adopt policies especially fiscal, wage, and social protection policies and progressively achieve greater equality

10.5 improve regulation and monitoring of global financial markets and institutions and strengthen implementation of such regulations

10.6 ensure enhanced representation and voice of developing countries in decision making in global international economic and financial institutions in order to deliver more effective, credible, accountable and legitimate institutions

10.7 facilitate orderly, safe, regular and responsible migration and mobility of people, including through implementation of planned and well-managed migration policies

10.a implement the principle of special and differential treatment for developing countries, in particular least developed countries, in accordance with WTO agreements

10.b encourage ODA and financial flows, including foreign direct investment, to states where the need is greatest, in particular LDCs, African countries, SIDS, and LLDCs, in accordance with their national plans and programmes

10.c by 2030, reduce to less than 3% the transaction costs of migrant remittances and eliminate remittance corridors with costs higher than 5%

GOAL 11

MAKE CITIES AND HUMAN SETTLEMENTS INCLUSIVE, SAFE, RESILIENT AND SUSTAINABLE

11.1 by 2030, ensure access for all to adequate, safe and affordable housing and basic services, and upgrade slums

11.2 by 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons

11.3 by 2030 enhance inclusive and sustainable urbanization and capacities for participatory, integrated and sustainable human settlement planning and management in all countries

11.4 strengthen efforts to protect and safeguard the world's cultural and natural heritage

11.5 by 2030 significantly reduce the number of deaths and the number of affected people and decrease by 1/3 the economic losses relative to GDP caused by disasters, including water-related disasters, with the focus on protecting the poor and people in vulnerable situations

11.6 by 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality, municipal and other waste management

11.7 by 2030, provide universal access to safe, inclusive and accessible, green and public spaces, particularly for women and children, older persons and persons with disabilities

11.a support positive economic, social and environmental links between urban, peri-urban and rural areas by strengthening national and regional development planning

11.b by 2030, increase by x% the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency mitigation and adaptation to climate change, resilience to disasters, develop and implement in line with the forthcoming Hyogo Framework holistic disaster risk management at all levels

11.c support least developed countries, including through financial and technical assistance, for sustainable and resilient buildings utilizing local materials

GOAL 12

ENSURE SUSTAINABLE CONSUMPTION AND PRODUCTION PATTERNS

12.1 implement the 10-Year Framework of Programmes on sustainable consumption and production (10YFP), all countries taking action, with developed countries taking the lead, taking into account the development and capabilities of developing countries

12.2 by 2030 achieve sustainable management and efficient use of natural resources

12.3 by 2030 halve per capita global food waste at the retail and consumer level, and reduce food losses along production and supply chains including post-harvest losses

12.4 by 2020 achieve environmentally sound management of chemicals and all wastes throughout their life cycle in accordance with agreed international frameworks and significantly reduce their release to air, water and soil to minimize their adverse impacts on human health and the environment

12.5 by 2030, substantially reduce waste generation through prevention, reduction, recycling, and reuse

12.6 encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle

12.7 promote public procurement practices that are sustainable in accordance with national policies and priorities

12.8 by 2030 ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature

12.a support developing countries to strengthen their scientific and technological capacities to move towards more sustainable patterns of consumption and production

12.b develop and implement tools to monitor sustainable development impacts for sustainable tourism which creates jobs, promotes local culture and products

12.c rationalize inefficient fossil fuel subsidies that encourage wasteful consumption by removing market distortions, in accordance with national circumstances, including by restructuring taxation and phasing out those harmful subsidies, where they exist, to reflect their environmental impacts, taking fully into account the specific needs and conditions of developing countries and minimizing the possible adverse impacts on their development in a manner that protects the poor and the affected communities

GOAL 13

TAKE URGENT ACTION TO COMBAT CLIMATE CHANGE AND ITS IMPACTS *

***Acknowledging** that the UNFCCC is the primary international, intergovernmental forum for negotiating the global response to climate change.

13.1 strengthen resilience and adaptive capacity to climate related hazards and natural disasters in all countries

13.2 integrate climate change measures into national policies, strategies, and planning

13.3 improve education, awareness raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction, and early warning

13.a implement the commitment undertaken by developed country Parties to the UNFCCC to a goal of mobilizing jointly USD100 billion annually by 2020 from all sources to address the needs of developing countries in the context of meaningful mitigation actions and transparency on implementation and fully operationalize the Green Climate Fund through its capitalization as soon as possible

13.b Promote mechanisms for raising capacities for effective climate change related planning and management, in LDCs, including focusing on women, youth, local and marginalized communities

GOAL 14

CONSERVE AND SUSTAINABLY USE THE OCEANS, SEAS AND MARINE RESOURCES FOR SUSTAINABLE DEVELOPMENT

14.1 by 2025, prevent and significantly reduce marine pollution of all kinds, particularly from land-based activities, including marine debris and nutrient pollution

14.2 by 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration, to achieve healthy and productive oceans

14.3 minimize and address the impacts of ocean acidification, including through enhanced scientific cooperation at all levels

14.4 by 2020, effectively regulate harvesting, and end overfishing, illegal, unreported and unregulated (IUU) fishing and destructive fishing practices and implement science-based management plans, to restore fish stocks in the shortest time feasible at least to levels that can produce maximum sustainable yield as determined by their biological characteristics

14.5 by 2020, conserve at least 10 per cent of coastal and marine areas, consistent with national and international law and based on best available scientific information

14.6 by 2020, prohibit certain forms of fisheries subsidies which contribute to overcapacity and overfishing, and eliminate subsidies that contribute to IUU fishing, and refrain from introducing new such subsidies, recognizing that appropriate and effective special and differential treatment for developing and least developed countries should be an integral part of the WTO fisheries subsidies negotiation *

14.7 by 2030 increase the economic benefits to SIDS and LDCs from the sustainable use of marine resources, including through sustainable management of fisheries, aquaculture and tourism

14.a increase scientific knowledge, develop research capacities and transfer marine technology taking into account the Intergovernmental Oceanographic Commission Criteria and Guidelines on the Transfer of Marine Technology, in order to improve ocean health and to enhance the contribution of marine biodiversity to the development of developing countries, in particular SIDS and LDCs

14.b provide access of small-scale artisanal fishers to marine resources and markets

14.c ensure the full implementation of international law, as reflected in UNCLOS for states parties to it, including, where applicable, existing regional and international regimes for the conservation and sustainable use of oceans and their resources by their parties

1000 Hari Pertama Kehidupan terkait dengan SDGs.

1. Goal Point 2 : Mengakhiri kelaparan, mencapai ketahanan pangan dan meningkatkan gizi , serta mempromosikan pertanian berkelanjutan, berisi :
 - point 2.2 : pada tahun 2030 mengakhiri segala bentuk kekurangan gizi , termasuk mencapai pada tahun 2025 target yang disepakati secara internasional pada stunting dan wasting pada anak di bawah usia lima tahun, dan memenuhi kebutuhan gizi remaja perempuan, ibu hamil dan menyusui , dan orang-orang yang lebih tua.
2. Goal point 3 : Menjamin kehidupan yang sehat serta mendorong kesejahteraan hidup untuk seluruh masyarakat di segala umur, berisi :
 - point 3.1. tahun 2030 mengurangi angka kematian ibu secara global untuk kurang dari 70 per 100.000 kelahiran hidup.
 - Point 3.2. tahun 2030 kematian dapat dicegah pada bayi yang baru lahir dan balita.

1000 Hari Pertama Kehidupan

Scaling Up Nutrition (SUN) adalah dorongan global tindakan dan investasi untuk meningkatkan gizi ibu dan anak . Fakta menunjukkan bahwa nutrisi yang tepat selama 1000 hari antara awal kehamilan seorang wanita hingga usia anaknya dua tahun memberikan anak-anak yang sehat dalam hidup. Gizi buruk selama periode ini mengarah pada konsekuensi seperti pertumbuhan dan perkembangan kognitif terhambat yang ireversibel. Meningkatkan gizi merupakan prasyarat untuk mencapai tujuan pemberantasan kemiskinan dan kelaparan, mengurangi angka kematian anak,

meningkatkan kesehatan ibu dan memerangi penyakit yang semua berkontribusi tersebut untuk masa depan yang lebih kuat bagi masyarakat dan bangsa (1). Di Indonesia disebut dengan Gerakan Nasional Percepatan Perbaikan Gizi dalam Rangka 1000 Hari Pertama Kehidupan (Gerakan 1000 HPK).

Tujuan *Global SUN Movement* adalah menurunkan masalah gizi, dengan fokus pada 1000 hari pertama kehidupan (270 hari selama kehamilan dan 730 hari dari kelahiran sampai usia 2 tahun) yaitu pada ibu hamil, ibu menyusui dan anak usia 0-23 bulan. Indikator *Global SUN Movement* adalah penurunan Bayi Berat Lahir Rendah (BBLR), anak balita pendek (*stunting*), kurus (*wasting*), gizi kurang (*underweight*), dan gizi lebih (*overweight*). Berdasarkan hasil Riset Kesehatan Dasar (Riskesdas tahun 2010), persentase BBLR di Indonesia sebesar 8,8 persen, anak balita pendek sebesar 35,6 persen, anak balita kurus sebesar 13,3 persen, anak balita gizi kurang sebesar 17,9 persen, dan anak balita gizi lebih sebesar 12,2 persen. Dengan demikian Indonesia menghadapi masalah gizi ganda, di satu pihak mengalami kekurangan gizi di pihak lain mengalami kelebihan gizi.

Dampak buruk yang dapat ditimbulkan oleh masalah gizi tersebut diatas, dalam jangka pendek adalah terganggunya perkembangan otak, kecerdasan, gangguan pertumbuhan fisik, dan gangguan metabolisme dalam tubuh. Sedangkan, dalam jangka panjang akibat buruk yang dapat ditimbulkan adalah menurunnya kemampuan kognitif dan prestasi belajar, menurunnya kekebalan tubuh sehingga mudah sakit, dan resiko tinggi untuk munculnya penyakit diabetes, kegemukan, penyakit jantung dan pembuluh darah, kanker, stroke, dan disabilitas pada usia tua. Kesemuanya itu akan menurunkan kualitas sumber daya manusia Indonesia, produktifitas, dan daya saing bangsa.

Gizi sebagai pusat pembangunan berkelanjutan, prevalensi gizi global, kebutuhan untuk memperbaikinya melalui aliansi kerjasama yang luas lintas lembaga, dengan target jangka pendek dan jangka panjang dengan tujuan: keadilan, memfasilitasi demografi untuk menurunkan tingkat kematian dan meningkatkan kesuburan, dan menangani perubahan iklim dan implikasinya terhadap kerentanan sistem pangan berkelanjutan, dan penggunaan sumber daya alam. Proses peningkatan perbaikan nutrisi berkaitan dengan masalah tersebut dan agenda pembangunan berkelanjutan dengan dua cara yaitu pertama, perbaikan gizi secara inheren/melekat, investasi di 1.000 hari pertama kehidupan seseorang bermanfaat untuk seluruh siklus hidup orang itu dan di generasi kedua (keturunannya). Kedua, peningkatan status gizi akan mendorong hasil pembangunan berkelanjutan secara langsung maupun secara tidak langsung.

Kebutuhan untuk memperkuat akuntabilitas gizi. Aspek-aspek gizi membuat pembangunan berkelanjutan yang membuat sulit stakeholder pembuat keputusan untuk bertanggung jawab dalam perbaikan gizi. Bagaimana individu menyatakan mereka yang bertanggung jawab untuk meningkatkan gizi jika mereka tidak dapat mengidentifikasi siapa yang bertanggung jawab , tidak dapat mengidentifikasi tugas, dan tidak dapat melacak apakah mereka memenuhi tanggung jawab ? Demikian pula mereka yang bertanggung jawab memperbaiki gizi akan mengalami kesulitan melacak kemajuan jika mekanisme pelacakan dan umpan balik yang lemah. Tanpa akuntabilitas nutrisi, tidak ada panduan untuk bertindak dan tidak ada hasil dan perbedaan dalam perbaikan gizi, kurang lebih 2-3 milyar orang terkena dampak langsung.

Gerakan 1000 Hari Pertama Kehidupan (Gerakan 1000 HPK).

Sasaran SUN yang ingin dicapai pada akhir tahun 2025 adalah :

1. Menurunkan proporsi anak balita yang stunting sebesar 40 persen
2. Menurunkan proporsi anak balita yang menderita kurus (wasting) kurang dari 5 persen.
3. Menurunkan anak yang lahir berat badan rendah sebesar 30 persen
4. Tidak ada kenaikan proporsi anak yang mengalami gizi lebih
5. Menurunkan proporsi ibu usia subur yang menderita anemia sebanyak 50 persen
6. Meningkatkan ibu yang memberikan ASI eksklusif selama 6 bulan paling kurang 50 persen

Pemangku Kepentingan. Dalam Gerakan 1000 HPK ditekankan pentingnya kemitraan dengan berbagai pihak atau pemangku kepentingan untuk mengatasi masalah gizi. (1). Pemerintah, berperan sebagai inisiator, fasilitator, dan motivator gerakan 1000 HPK. Mitra Pembangunan/ Donor, tugas untuk memperkuat kepemilikan nasional dan kepemimpinan berfokus pada hasil, mengadopsi pendekatan multisektoral, memfokuskan pada efektivitas, mempromosikan akuntabilitas dan memperkuat kolaborasi dan inklusi. . Organisasi Kemasyarakatan adalah memperkuat mobilisasi, advokasi, komunikasi, riset dan analisis kebijakan serta pelaksana pada tingkat masyarakat untuk menangani kekurangan gizi. Dunia Usaha bertugas untuk pengembangan produk, control kualitas, distribusi, riset, pengembangan teknologi informasi, komunikasi, promosi perubahan perilaku untuk hidup sehat. Mitra Pembangunan/ Organisasi PBB bertugas untuk memperluas dan mengembangkan kegiatan gizi sensitif dan spesifik melalui harmonisasi keahlian dan bantuan teknis antar

mitra pembangunan antara lain UNICEF, WHO, FAO dan IFAD, SCN (*Standing Committee on Nutrition*)

Jenis Kegiatan yang dilakukan di gerakan 1000 HPK adalah intervensi spesifik dan intervensi sensitif. Intervensi spesifik, kegiatan ini pada umumnya dilakukan oleh sektor kesehatan, bersifat jangka pendek.

I. Jenis-jenis intervensi gizi spesifik adalah sebagai berikut :

1. Ibu Hamil
 - a. Suplementasi besi folat
 - b. Pemberian makanan tambahan pada ibu hamil KEK
 - c. Penanggulangan kecacingan pada ibu hamil
 - d. Pemberian kelambu berinsektisida dan pengobatan bagi ibu hamil yang positif malaria
2. Kelompok 0 – 6 Bulan : Promosi menyusui (konseling individu dan kelompok)
3. Kelompok 7 – 23 Bulan
 - a. Promosi menyusui
 - b. Perubahan perilaku untuk perbaikan masa pemberian – ASI
 - c. Suplementasi Zink
 - d. Zink untuk manajemen diare
 - e. Pemberian Obat Cacing
 - f. Fortifikasi besi
 - g. Pemberian kelambu berinsektisida dan malaria

II. **Intervensi Sensitif.** Berbagai kegiatan pembangunan di luar sektor kesehatan.

Sasarannya adalah masyarakat umum, tidak khusus untuk 1000 HPK. Namun apabila direncanakan secara khusus dan terpadu dengan kegiatan spesifik, dampaknya sensitif terhadap keselamatan proses pertumbuhan dan perkembangan 1000 HPK. Dampak kombinasi dari kegiatan spesifik dan sensitif bersifat langgeng (“*sustainable*”) dan jangka panjang. Intervensi gizi sensitif meliputi :

1. Penyediaan air bersih dan sanitasi
2. Ketahanan pangan dan gizi
3. Keluarga Berencana
4. Jaminan Kesehatan Masyarakat
5. Jaminan Persalinan Dasar
6. Fortifikasi Pangan
7. Pendidikan gizi masyarakat
8. Intervensi untuk remaja perempuan
9. Pengentasan Kemiskinan

Mekanisme Kerja Organisasi.

1. Tingkat Pusat Gugus Tugas mempunyai tugas:

- (a) mengoordinasikan dan menyinkronkan penyusunan rencana dan program kerja Gerakan Nasional Percepatan Perbaikan Gizi pada kementerian dan lembaga;
- (b) mengkoordinasikan penyusunan program prioritas dalam rangka pelaksanaan Gerakan Nasional Percepatan Perbaikan Gizi;

- (c) Mengkoordinasikan mobilisasi sumber dana, sarana, dan daya dalam rangka pelaksanaan Gerakan Nasional Percepatan Perbaikan Gizi,
 - (d) Mengkoordinasikan penyelenggaraan advokasi dalam rangka pelaksanaan Gerakan Nasional Percepatan Perbaikan Gizi, dan
 - (e) melaksanakan pemantauan dan evaluasi pelaksanaan Gerakan Nasional Percepatan Perbaikan Gizi. Ketua Gugus Tugas melaporkan tugasnya kepada Presiden secara berkala paling sedikit satu kali dalam setahun atau sewaktu-waktu apabila diperlukan.
- 2 Tingkat Daerah. Pemerintah provinsi, pemerintah kabupaten dan kota melakukan Gerakan Nasional Percepatan Perbaikan Gizi di daerah dengan mengacu pada rencana dan program kerja yang disusun oleh Gugus Tugas nasional. Gugus tugas melakukan rapat koordinasi paling sedikit satu kali dalam tiga bulan . Gubernur, Bupati/Walikota melaporkan pelaksanaan Gerakan Nasional Percepatan Perbaikan Gizi di daerah kepada ketua Gugus Tugas dengan tembusan kepada Menteri Dalam Negeri secara berkala paling sedikit satu kali dalam setahun atau sewaktu-waktu apabila diperlukan.

Mengapa 1000 Hari Pertama Kehidupan

Diakui bahwa gizi yang cukup dan perawatan kesehatan merupakan prasyarat penting untuk kelahiran baik bayi sehat. Makanan dan perawatan kesehatan yang optimal untuk bayi dan anak kecil dibutuhkan untuk pertumbuhan selama masa bayi dan anak usia dini. Pertumbuhan selama periode ini memainkan peran penting dalam pengaturan lintasan pertumbuhan di masa kecil dan remaja dan perawakannya dalam

kehidupan dewasa. Otak berkembang pada kecepatan yang hebat seperti halnya sistem organ lainnya. Semua ini tercermin dalam tinggi gizi yang diperlukan pada anak-anak dibandingkan dengan orang dewasa, ketika dinyatakan sebagai nutrisi per kilogram berat badan.

1000 hari pertama terdiri dari masa selama 270 hari (9 bulan) dalam kandungan dan 730 hari (2 tahun pertama) pasca lahir. Kehamilan 8 minggu pertama: terbentuknya cikal bakal yang akan menjadi otak, hati, jantung, ginjal, tulang, dan organ lainnya. Kehamilan 9 minggu sampai lahir terjadi pertumbuhan dan perkembangan lebih lanjut organ tubuh siap untuk hidup di dunia baru, di luar kandungan.

Jendela kritis perkembangan janin

8 minggu pertama sejak pembuahan terjadi pembentukan semua cikal bakal organ tubuh. Fetal periode : perkembangan penting sebagian organ berlanjut sampai akhir kehamilan. Bayi lahir, perkembangan penting sebagian organ berlanjut sampai kira-kira dua tahun pertama kehidupan.

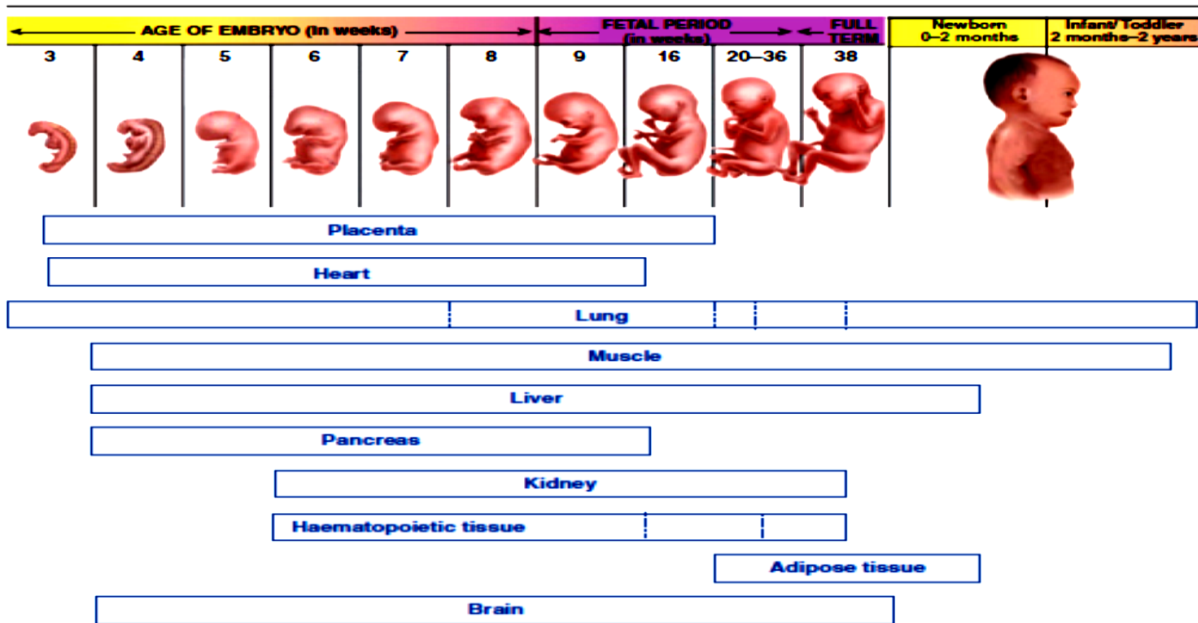


Figure 4.2 Critical windows in embryo and fetal development. As can be seen, all but one of the organs discussed in this chapter begin their development during the critical first 8 weeks of gestation. **Note:** Horizontal bars indicate time periods of development of different organs. The vertical dotted lines indicate distinct stages of organ development. Medical illustrations: James Dowdalls. Graph production, Jane Teis Graphic Services. From the UCLA Institute of the Environment and Sustainability, Southern California Environmental Report Card, 'Air Pollution Impact on Infants and Children', Beate Ritz, MD, Ph.D. and Michelle Wilhelm, Ph.D.

Perkembangan otak manusia

Otak setelah lahir: masih mengalami perkembangan fungsi, menurun rata-rata setelah usia 2-3 tahun. Dari konsepsi sampai lahir : pembentukan sistem syaraf. Myelinasi mulai menurun sejak 2 bulan sampai 5-10 tahun. 0-2 tahun: puncak perkembangan fungsi melihat, mendengar, berbahasa, & fungsi kognitif yang lebih tinggi. 3 bulan sampai 15-18 tahun terjadi sinaptogenesis. Setelah usia >2-3 tahun, fungsi kognitif yang lebih tinggi, turun.

Puncak synaptic overproduction di bagian korteks visual terjadi pada usia kira-kira 4 bulan postpartum, diikuti dengan pengurangan secara bertahap sampai pertengahan-akhir usia pra-sekolah, dimana densitas synapsis dicapai di tingkat dewasa.

Otak bayi fullterm yang baru lahir mempunyai lebih banyak synapses dari otak dewasa. Periode ini terjadi synaptic over production (synaptogenesis) yang secara normal diikuti synaptic retraction atau pengurangan, terjadi efisiensi otak. Tujuan synaptic overproduction adalah untuk perkembangan arsitektur synaptic dari otak, belum banyak diketahui. Sangat penting diketahui kerugian pada perkembangan otak akibat dari ibu yang minum alcohol pada prenatal, penyalahgunaan obat, kekurangan nutrisi pada pre dan postnatal dan perawatan kesehatan yang tidak benar.

Selama bulan prenatal, perkembangan otak sangat rentan yang dapat mengalami kerusakan bahaya dari dalam tubuh (kesalahan migrasi sel) yang menjadi masalah perkembangan (schizophrenia) dan bahaya dari luar misalnya infeksi virus, obat, alcohol, malnutrisi. Otak dewasa yang sudah masak, berkaitan dengan fungsi plasticity dari otak mature. Bagian otak relevan dengan pengertian lebih tinggi, penalaran, problem solving, self regulation, kepribadian.

Kekurangan gizi terjadi selama kehamilan mungkin memiliki efek kesehatan jangka panjang pada baik ibu dan keanak-kanakan dan dewasa. Periode periconceptional tertentu, yang meliputi prakonsepsi, konsepsi, implantasi, plasentasi dan organogenesis, adalah masa kehamilan yang penting dalam menentukan perkembangan janin. Kemudian, plasenta berfungsi mengatur pertumbuhan janin dan perkembangan. Asal-usul penyakit dewasa, menunjukkan bahwa faktor lingkungan, terutama gizi, bertindak melalui proses perkembangan plastisitas (yaitu kemampuan janin untuk menanggapi isyarat lingkungan dengan memilih lintasan pembangunan yang sering menawarkan adaptif Keuntungan) untuk mengubah perkembangan

organisme sedemikian rupa yang mempengaruhi kapasitas untuk mengatasi lingkungan dalam kehidupan dewasa, dan karena itu pengaruh Risiko penyakit dalam kehidupan dewasa

Karakteristik utama dari kehamilan yang perlu disorot dari perspektif gizi adalah sebagai berikut: Kehamilan ditandai dengan sebuah tiga compartment model, yaitu ibu, plasenta, janin. Masing-masing memiliki metabolisme yang berbeda, transportasi plasenta berfungsi menentukan komposisi darah tali pusar, menyediakan nutrisi dan oksigen ke janin untuk menjamin pertumbuhan janin yang sesuai. Pertumbuhan janin diatur oleh keseimbangan antara permintaan nutrisi janin dan pasokan nutrisi maternal plasenta. Kehamilan adalah keadaan dinamis, di mana penyesuaian dalam metabolisme nutrisi berkembang terus-menerus sebagai ibu beralih dari kondisi anabolik selama awal kehamilan ke keadaan katabolik selama akhir kehamilan.

Keterkaitan antara 1000 hari pertama kehidupan dengan SDGs

Dalam beberapa tahun terakhir, pentingnya kritis 100 hari sedang diakui oleh banyak negara, yang fokus pada gizi dan perawatan kesehatan ibu-anak selama masa kritis ini. 1000 hari pertama merupakan sebuah jendela kerentanan. Merupakan periode yang cepat untuk pertumbuhan dan perkembangan fisik. Kecepatan pertumbuhan tinggi selama periode ini lebih cepat dari pada waktu lainnya, termasuk masa remaja (4). Makanan dan perawatan kesehatan yang optimal untuk bayi dan anak kecil dibutuhkan untuk pertumbuhan selama masa bayi dan anak usia dini. Pertumbuhan selama periode ini memainkan peran penting dalam pengaturan lintasan pertumbuhan di masa kecil dan remaja dan perawakannya dalam kehidupan dewasa

(1). Indonesia fokus kepada 1000 hari pertama kehidupan (terhitung sejak konsepsi hingga anak berusia 2 tahun) dalam menyelesaikan masalah stunting secara terintegrasi karena masalah gizi tidak hanya dapat diselesaikan oleh sektor kesehatan saja (intervensi spesifik) tetapi juga oleh sektor di luar kesehatan (intervensi sensitif). Hal ini tertuang dalam Peraturan Pemerintah Nomor 42 Tahun 2013 tentang Gerakan Nasional Percepatan Perbaikan Gizi. Terkait point 2.2 : pada tahun 2030 mengakhiri segala bentuk kekurangan gizi , termasuk mencapai pada tahun 2025 target yang disepakati secara internasional pada stunting dan wasting pada anak di bawah usia lima tahun, dan memenuhi kebutuhan gizi remaja perempuan, ibu hamil dan menyusui.

Pada 1000 HPK, pada Ibu Hamil diberikan : (a) Suplementasi besi folat, (b) Pemberian makanan tambahan pada ibu hamil KEK, (c) Penanggulangan kecacingan pada ibu hamil (d) Pemberian kelambu berinsektisida dan pengobatan bagi ibu hamil yang positif malaria. Efek suplementasi besi pada ibu hamil dengan anemia pada awalnya, setelah suplementasi menyebabkan peningkatan $10 \pm 2 \text{ g / L}$ dalam hemoglobin. Anemia (hemoglobin $<110 \text{ g / L}$), mungkin disebabkan konsumsi rendah atau penyerapan dalam diet atau kehilangan darah, seperti cacingan, dengan prevalensi tinggi selama kehamilan. Anemia pada kehamilan meningkatkan risiko kematian ibu. Sebagian besar tabung saraf cacat (cacat bawaan dari sumsum tulang belakang dan otak) terkait dengan konsumsi asam folat yang tidak memadai sekitar waktu pembuahan/konsepsi. Penelitian Cochrane pada tahun 2010 (bentuk sintetis dari folat) suplementasi dan teridentifikasi 72 % dapat mengurangi risiko cacat tabung saraf.. Ibu hamil juga merupakan kelompok yang rawan terhadap kekurangan gizi. Gizi kurang pada ibu hamil akan mempengaruhi proses tumbuh kembang janin yang

berisiko kelahiran bayi berat lahir rendah (BBLR). Untuk mengatasi kekurangan gizi yang terjadi pada ibu hamil Kurang Energi Kronis (KEK) perlu diselenggarakan Pemberian Makanan Tambahan (PMT) Pemulihan.

Makanan tambahan balita dan ibu hamil sasaran Diutamakan berupa sumber protein hewani maupun nabati (misalnya ikan/ telur /daging/ayam kacang-kacangan dan hasil olahannya seperti tempe dan tahu) serta sumber vitamin dan mineral yang terutama berasal dari sayur-sayuran dan buah-buahan (12). Ibu hamil tidak sehat antara lain disebabkan anemia, dan malaria. Fakta menunjukkan bahwa nutrisi yang tepat selama 1000 hari antara awal kehamilan seorang wanita hingga usia anaknya dua tahun memberikan anak-anak yang sehat dalam hidup. Terpadu dengan kegiatan spesifik, dampaknya sensitif terhadap keselamatan proses pertumbuhan dan perkembangan 1000 HPK. Dampak kombinasi dari kegiatan spesifik dan sensitif bersifat langgeng ("*sustainable*") dan jangka panjang (1). Hal diatas terkait dengan point 3.1, mengurangi angka kematian ibu secara global untuk kurang dari 70 per 100.000 kelahiran hidup dan point 3.2 pencegahan kematian pada bayi yang baru lahir dan balita.

Daftar Pustaka

1. Profil Kesehatan Kota Makassar Tahun 2015
2. UNSCN, 10 April 2012
3. Kemenko Kesejahteraan Rakyat, 2013. Pedoman perencanaan program gerakan 1000 hari pertama kehidupan.
4. Global Nutrition Report. 2014
5. Martorell R. First 1000 days and human development: implications for India. Bulletin of Nutrition Foundation of India, Vol 34 : 3, July 2013.
6. Achadi EL. Periode kritis 1000 hari pertama kehidupan dan dampak jangka panjang terhadap kesehatan dan fungsinya. Kursus Penyegar Ilmu Gizi. PERSAGI. 25 November 2014.
7. Ritz B. 2013. Air pollution impact and children. UCLA Department of Epidemiology, Environmental Health Sciences and Neurology.
8. Thompson RA, Nelson CA. Developmental science and the Media : early Brain Developmental. American Physiologist : 56 (1), 5-15.
9. Thompson RA, Nelson CA. 2001. American Psychologist.
10. Barker DJP. Human Growth and Disease in later life. Nutrition in Pediatrics 4th ed. Hamilton.2008

11. Rencana Strategis Kementerian kesehatan tahun 2015-2019.
12. Black RE. Maternal and child undernutrition and overweight in low-income and middle-income countries. Lancet 2013; 382: 427–51
13. <http://gizi.depkes.go.id/wp-content/uploads/2012/05/Panduan-PMT-Balita-dan-Bumil-BOK-4-Jan-2012.pdf>